

Sea-Sickness.

Thesis of

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## Sea Sickness.

Of the diseases which cause sudden prostration by their action on the system, no disease, if we except a few acting on the heart and nervous system, is so sudden as sea-sickness; and it may be safely asserted that no disease has received so little attention at the hands of writers. This is to be accounted for by the fact that (in most cases) it is a functional disease; in other words, it produces no structural changes in the body, and generally passes off leaving no permanent effects. It may seem strange that a person will be well, walking about on ship-board, enjoying life to the fullest extent, and two hours afterwards will be lying not able to move, overcome with nausea, prostration and not caring for the time being what becomes of him. Any person going to sea a few times will see only too many examples of this.

I do not know how my observations and experience may be in accordance with those of others, but having crossed the Atlantic

ten times I can safely assert that I am not without experience of the malady, and have the further advantage that I have suffered from it myself. I am, therefore, able to speak from personal experience as well as observation.

### Aetiology

What is the cause of sea-sickness?

No distinct answer can be given at present to this vexed question. When it is stated that its cause depends on certain relations between the nervous system and secreting glands, put broadly and roughly, all is said that is known. What ~~those~~ relations are, and what part the former as compared with the latter plays we are not in a position to accurately define. Still from observation, one cannot fail to observe the predominance of the nervous symptoms in one individual and the glandular in another. The glands involved are (1) the liver; (2) the glands of the stomach; (3) the salivary glands. The bile seems to be poured out in abnormal quantities, both that already formed and lodged in the gall bladder, as well as by an increased

activity in the secreting power of the gland. At first it passes in its normal course along the intestine, but after a time it regurgitates. We shall return to this subject later on.

Mode of action of sea sickness in a typical Case.

As has been said, the bile passes in a wrong direction, namely, towards the stomach. Associated with this there is a feeling of nausea and headache which become gradually worse, and at last, the patient being able to resist no longer an effort of vomiting is produced, lasting a longer or shorter time according to the intensity of the spasm. The contents of the stomach are first vomited, and probably that is all the first time; but afterwards more severe straining takes place and bile is vomited. After this the patient expresses himself as relieved and comparatively comfortable. The nausea and headache that he suffered from are, to a considerable extent, removed, and he expresses himself thankful for the relief.

Meantime the glands of the stomach are actively engaged in manufacturing gastric juice. The salivary glands are also manufacturing

Saliva and pouring their contents into the mouth, and the patient has the choice of swallowing or spitting it out. After a time, the forces that caused the first attack come into play again. The nausea increases as well as the headache. A "raw" sensation caused by the action of the bile and gastric juice on the empty stomach is felt. All the mechanism of vomiting comes into play. Gastric juice is first vomited; then more straining, and bile is parted with. After this attack the person falls back exhausted, probably with the cold perspiration running off him and thankful for a moment's peace till all the energies at work in causing vomiting are set to work once more. It is impossible to fix the duration of the intervals between attacks of vomiting, but it may be stated generally that the shorter the time from the onset of the disease the more frequent the vomiting.

Thus it may occur every fifteen minutes the first day of the disease; the second day every hour, and so on, gradually having longer intervals.

## How Long Does Sea-Sickness Last?

In answering this question the age of those affected must be taken into account, because its average duration differs in the adult and child. Looking back over two thousand cases, I am able to fix with tolerable accuracy its duration. I have kept a record of its duration amongst the saloon passengers for a number of voyages, so that with regard to them I am able to speak definitely. The statistics apply to eight voyages, and it will be seen that its average duration is three days.

The first voyage we had eighteen Saloon passengers, fifteen of whom suffered. They recovered as follows:—

Total Number of Persons Ill.	Recovered on First Day.	Recovered on Second Day.	Recovered on Third Day.	Recovered on Fourth Day.	Total
15	0	4	9	2	15.
or 83.33	or Nil.	or 26.66	or 60.00	or 13.33	or 100.00

The second voyage we had thirty saloon passengers, and twenty-eight suffered. They recovered as follows:—

Total Number of Persons Ill.	Recovered on First Day.	Recovered on Second Day.	Recovered on Third Day.	Recovered on Fourth Day.	Recovered on Fifth Day.	Recovered on Sixth Day.
28	0	5	14	3	2	1
or 93.33	or Nil.	or 17.85	or 60.71	or 10.71	or 7.14	or 3.57

The third voyage we had 108 Saloon passengers, 98 of whom suffered. They recovered as follows :-

Total Number	Recovered on	Recovered on	Recovered on	Recovered on	Recovered on	Recovered on	Recovered on	Did not Recover
1st	First Day	Second Day	Third Day	Fourth Day	Fifth Day	Sixth Day	Seventh Day	
98	1	12	50	20	10	2	2	1
or	or	or	or	or	or	or	or	or
90.74	1.02	12.24	51.02	20.40	10.20	2.04	2.04	1.02

The fourth voyage we had twenty-eight saloon passengers all of whom suffered. Their were as follows :-

Total Number who Suffered.	Recovered on	Recovered on	Recovered on	Recovered on	Recovered on	Recovered on
	First Day	Second Day	Third Day	Fourth Day	Fifth Day	Sixth Day
28	0	2	20	4	1	1
or		or	or	or	or	or
100.00	nil	7.14	71.43	14.28	4.14	4.14

The fifth voyage we had sixty saloon passengers on board, fifty of whom suffered. They recovered as follows :-

Total Number Affected.	Recovered on	Recovered on	Recovered on	Recovered on	Total
	First Day	Second Day	Third Day	Fourth Day	
50	1	12	30	4	50
or	or	or	or	or	or
83.33	2.00	24.00	60.00	14.00	100.00



The Sixth voyage we had sixteen Saloon passengers all of whom Suffered. They recovered as follows :-

Total numbers of Persons Affected.	Recovered on First Day.	Recovered on Second Day.	Recovered on Third Day.	Recovered on Fourth Day.	Total
16	1	0	12	3	16
or 100.00	or 6.25	Nil.	or 75.00	or 18.75	or 100.00

The Seventh voyage we had fifteen Saloon passengers - Thirteen of whom Suffered. They recovered as follows :-

Total numbers of Persons Ill.	Recovered on First Day.	Recovered on Second Day.	Recovered on Third Day.	Recovered on Fourth Day.	Total
13	0	0	11	2	13
or 88.66	Nil.	Nil.	or 84.61	or 15.38	or 100.00

Ninth and eighth voyage we had twelve Saloon passengers, Eleven of whom Suffered from sickness. They recovered as follows :-

Total Numbers Affected.	Recovered on First Day.	Recovered on Second Day.	Recovered on Third Day.	Recovered on Fourth Day.	Recovered on Fifth Day.	Recovered on Sixth Day.	Did not Recover.
11	0	0	8	2	0	0	1
or 91.66	Nil	Nil	or 72.72	or 18.18	Nil	Nil	or 9.09

Total number of cases 259. <sup>Did not recover</sup> ~~2~~ or 0.83%

## Influence Of Age And Sex.

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The above statistics do not apply to children as has been already said.

Children are quickly prostrated and soon better. Women are slightly more susceptible to it than men. Of those who escaped as tabulated above, only two were females and they belonged to the same family being mother and daughter respectively. Broadly put, the older the adult the less susceptible he is to it. It was no unusual thing to observe a father hold out longer than his family and perhaps be only slightly affected when his wife and family would be prostrate for two or three days. The susceptibility of children is well illustrated by a case I once observed of a child getting sick going out on the tender to join the ship. The total distance between the shore and the ship was not more than 800 yards, yet the child was so prostrate that it had to be carried on board. The day was of course stormy. Like many other diseases, some families seem more subject to the malady than others. It was the rule that two brothers, or brother and sister

suffered either severely or slightly. Not only was there a similarity in the intensity of the sickness but also in the kind of sickness in the same family. Thus two members of the same family would refer the leading symptoms mainly either to the head or the stomach. All the persons who did not recover as tabulated were females, and all who recovered were belonged to the same sex. So far as could be observed, age does not play such an important part in protecting them as males. Of the two that did not recover one lady was beyond middle life, and the other was about 28 years old. So far as the intensity of the sickness is concerned, the elderly lady did not seem to suffer more severely than others at first, but the young one was prostrate from the first few hours, and remained in a complete state of prostration for four days. It should be mentioned that the duration of the passage lasted from ten to fourteen days and consisted in journeying between Liverpool and Montreal. The length of time persons were on board before they became affected varied with the state of the

weather, the part of the ocean that we were in, as well, of course, <sup>as</sup> their susceptibility to it. The voyage that shows in the tables the smallest per-centage of sickness the sea was unusually calm.

Does one attack modify or protect the person from another?

The next question we have to discuss is. Does one attack protect a person from subsequent ones, or if it does not protect him does it modify them, and thus follow the example of certain other kinds of sickness, fevers for example? I am left no option but to answer the question in the affirmative. In order that this may be the case however the sickness must run its whole course.

Thus if a person goes a short journey, say is only on board one night and is sick, and next day he returns to sea, he will be equally as sick the second journey as the first, other things being the same.

On the contrary if he has been a voyage extending over four days, and he gets well before leaving the ship, and he returns in - say, four days to sea, he will not be nearly so susceptible the

second time as the first. It may be that he will not be ill, or if he be it will be modified sickness. In no single instance did I see a person, who had been ill and completely recovered, take ill during the remainder of the voyage no matter how stormy it was. Of all the persons we had on board for two voyages not one of them suffered so much the second voyage as the first, and indeed some of them escaped altogether. I can illustrate the immunity of one attack against subsequent ones by my own case. The first time I went to sea ~~it~~ was on a voyage to Boston, and I was ill for four days. Two years after I went to sea under much the same circumstances — the time of the year and atmospheric conditions being much the same, as also the journey. This time I was ill three days. On the return journey I was ill the first time two days, and the second only half a day. I continued at sea <sup>on</sup> the second occasion for a length of time. In subsequent trips ~~I felt nothing~~ I felt nothing beyond a slight sense of nausea for a day after we left port. The illness differed much not only in duration but in intensity the second time as compared with the

first, the spasms and prostration not being nearly so great. The stomach seems unwilling to respond to impressions from the nerve centres, the object of which is to produce vomiting. The longer, of course, the time between the voyages, the less one attack will protect one from or modify subsequent attacks. Although this is the rule, there are exceptions to it. There are persons who have been at sea a dozen of years who are affected every time they go. A quartermaster once informed me that although he had been years at sea, he was sick half a day leaving port every voyage. A Captain told me a somewhat similar story of himself, as also did a Chief Engineer. A Chief Officer told me he was always affected in stormy weather, and he went so far as to say that all sailors were the same although they had not the honesty to confess it.

Having spoken about the nature, duration, and mode of attack of seasickness, we are now in a position to discuss more in detail its cause.

It has been already pointed out, that it depends on certain relations between the nervous system and secreting glands, the liver and stomach being notably affected.

The precise nature of these relations has never been thoroughly worked out. However, any one who has seen a few hundred cases cannot fail to observe some things that are suggestive in themselves. The question is: What causes the nerve centres to lose their inhibitory influence over the secreting glands? Why does this take place at sea at all, and not on land? In answering the question about its cause, it should be borne in mind that there are two factors at work in its production, namely, the movements of the ship and something acting through the olfactory nerves. That the movements of the ship play an important part is evident to everyone who has had the least experience of sea, because the intensity of the sickness often bears a direct ratio to the roughness of the water. I have often observed, however, that a limited roughness produces as much sickness in a person <sup>susceptible to it</sup> as a very rough sea. I have seen persons moderately ill, and a severe

storm coming on being made no worse by it. A very limited roughness is all therefore that is needed to supply this factor. One can go even further and say this factor is not absolutely necessary, because more than once I have seen typical sea-sickness before the ship left port; this, however, is rather a rare exception. I have known an instance of a person who had a long ride by rail in America to catch <sup>the ship</sup>. The ride extended over two days, and on the second day he was seized with headache, retching, nausea and vomiting. In fact, as he expressed it, it was just a similar attack to what he had had previously at sea. He described the sickness as lasting half a day. During his sea-journey, with the exception of a slight sense of nausea, he escaped. His escape when he came on board pointed very forcibly to the conclusion that the sickness he had had on land was the same as that of the sea, and thus tended to protect him. Another similar case was that of a lady, who described herself as so ill that she was not able to hold up on her railway journey, and when she came on board she suffered scarcely at all. There



Can be no other interpretation put on these facts than that it was the same sickness out of its place.

Whatever acts on the sense of Smell renders it super-sensitive: Thus a person sea-sick will smell things that a person in health will by no means smell. Moreover, smells that are agreeable to him in health are intolerable when sea-sick. This is especially the case as regards foods. I have over and over again noticed persons sick who have smelled food and become worse, and that it often caused nausea and vomiting. Again I have noticed that persons recovering could go anywhere but near the pantry. In the Ship (Lake Superior) the pantry was situated at the foot of the stair and entrance to the Saloon, and there were odors of food passing out of the pantry. I looked upon it as a good test if a persons could pass this without getting upset, because if they could, they were generally able to remain in their seats during the dining hour. The smell of paints are especially objectionable to persons sea-sick. Thus persons lying in their berths sick could smell paints which if questioned

when they got well if they still had a disagreeable smell would answer that they could not smell them at all. ~~Whatever~~ can it be that causes such changes in the sense of smell? Whatever it may be that thus acts through the sense of smell, it seems to abound in more abundance in a limited and confined atmosphere than an open one. If a person be half sea-sick and put into a confined space, say his berth, with the door closed, he will soon inform you that he is a good deal worse. Indeed, there is no more effectual way of causing the sickness to come to a crisis than this.

The headache and nausea become oppressive and he soon becomes prostrate. It may be said, however, that the headache and nausea are caused in part by the accumulation of Carbonic acid, just as would take place in a confined atmosphere on land. The answer is that this is not sufficient to account for it. I have seen persons enter their berths (they having been thoroughly ventilated) and before they had the door closed half a minute an explosion of vomiting took place. Of course it would be absurd to suppose that any accumulation of carbonic acid could account for this lateing

place so suddenly. Headache is a leading feature in all cases of this sickness. It is referred to the front of the head, being complained of chiefly across the temples, and extending back as far as the middle of the head. The situation never varies, but its intensity varies very much in different persons. The intensity, however, is not a good guide to the degree of sickness. In some it is only slight, but in others it is so severe as to be almost unbearable. It seems to some as if their heads were splitting in two halves. It is sometimes all that is complained of. I have been often informed by persons in response to a question as to how they were that they would be "all right", only for the headache. "Can you give me anything to relieve the pain in my head?" often was the usual question. One person made the modest request to be thrown outboard and get rid of the excruciating pain she suffered in her head! There is every reason to believe that it is caused through impressions conveyed through the olfactory nerves, because it is always aggravated by anything that causes disagreeable smells. In some cases its intensity bears a direct ratio to the degree of sickness, but as has been said,

it is not a reliable guide in all cases. Many persons believe that it has nothing to do with the sickness and can scarcely be made to believe that it has.

### Sense of Nausea.

The other leading feature is the sense of nausea, which persons complain of. Sometimes, indeed often, it is the leading feature of the case. There is a "raw" feeling about the stomach, sometimes it amounts to actual pain, but oftener it is simply a raw and uneasy feeling. It changes its character more or less with the stage of the case, the rawness increasing the more advanced the case. It is no doubt caused by the accumulation of bile in the duodenum, and gastric juice in the stomach making impressions on their respective nervous connections. When the stomach empties itself of food, and no more is taken its walls collapse, and this, with an abnormal secretion of gastric juice, no doubt is an important contribution to its cause. It might be asked in passing, how it is that with the inhibitory influence of the nervous connection of the

Stomach removed, and such large quantities of gastric juice thrown out, the stomach does not digest itself. If it does not do this, however, it is often injured and, perhaps, slightly digested. This is shown by the feelings of the patient, and by the irritability of the stomach that often ensues. As to the actual quantity secreted it is sometimes enormous. I have seen as much as half a pint secreted in three-quarters of an hour, care having been taken that the observation was correct by the patient spitting out the saliva and noting that no bile was present.

### Action of The Salivary Glands.

The action of these glands is not nearly so constant as those of the stomach. Often, however, it is one of the first symptoms of the malady. It often lasts till all the other symptoms have disappeared, but this is not the rule. The quantity thrown out is sometimes very great, the patient being bothered every half-minute emptying his mouth. So far as could be observed, one pair of glands does not appear to be more active than another. The saliva shows a great tendency to mix with

air, and is consequently very frothy. Moreover, many complain of its highly saline taste.

The constant discharge of saliva is one of the greatest hardships that some suffer from, and say that they would be happy only for that one thing. Some persons escape it altogether.

## Secretion Of Bile.

There is no doubt but this secretion takes place at the same time as the other secretions, and that it is thrown into the intestines and tends at first to go in its normal course, but after a time it regurgitates towards the pylorus.

That a quantity goes in its normal direction at first, is proved by the <sup>frequent presence</sup> ~~presence~~ of slight diarrhoea at the onset of the sickness, the stools being deeply tinged with bile. Soon, however, after the onset vomiting comes on, the contents of the stomach are vomited, severe retching following, then bile comes up causing one of the most horrid sensations of the sickness.

The quantity brought up is sometimes enormous, it being voided every few minutes. With the secretion of so much bile it is only natural to suppose that the bile-forming power of the

liver would get exhausted after a time, and this is actually the case. During the late stages of the disease the blood and liver seem to get robbed of all their bile-forming material. Hence the absence of the peristaltic movements of the intestine and consequent obstinate constipation of the bowels.

### Feelings Of The Patient And Appearances.

Some of the remarks under this head have been already made under others, but many of them have not been touched, or only imperfectly dwelt upon.

At first there is a feeling of nausea, then headache comes on more or less. There is a certain amount of apathy of the mind; it cannot be concentrated for long on one thing.

If the person is reading he tries in vain to follow the text. Should he succeed in catching the meaning of a few sentences the mind becomes wearied. If he is talking he does not take that lively interest in the conversation that is his wont. If he is a smoker he tries to smoke, and after giving vent to a few mouthfuls of smoke the cigar is thrown

overboard. If he is not suddenly prostrated he tries to walk about the deck. A sense of pallor comes over him, and this is noticeable in almost all cases. With this there is probably the formation of a dark zone below the eye, and the countenance bespeaks anxiety and suffering. From this stage in an ordinary case he becomes gradually worse; the nausea increases as does also the difficulty in walking about. At last the situation becomes unbearable, and he is forced by circumstances to go to his berth, where after a time the sickness is manifested by an attack of vomiting. Then he feels considerably relieved for a time. Gradually, however the nausea increases and another fit of vomiting comes on. In many persons the spasm is so severe as to be almost unbearable. Between the spasms the person lies prostrate and feels a marked sense of relief at being allowed to lie in peace were it only for a minute. If the spasm has been severe he falls back prostrate and helpless not caring what becomes of him. When the nausea begins to re-establish itself



The least movement may cause another explosion, hence his anxiety to remain quiet. The posture he usually chooses is on his back because this is the position that the stomach seems most difficult to act upon so as to cause vomiting. When the sickness has gone on for some time, during the intervals the patient lies in a drowsy condition, not caring to take the least interest in anything that is going on. His whole object and sole wish is to be left alone. Strange as it may seem, the time does not appear long to him. This is to be accounted for by the sense of semi-stupor and drowsiness that comes on at this stage. The tendency to be left alone often lasts after the symptoms have abated and the sickness is partly overcome. Thus during the stage of convalescence I have often had great difficulty in getting persons to leave their beds. Having remained thus a few days he probably gets thirsty and asks for drinks - a thing not to be wondered at when it is taken into account the amount of fluid drained off from the blood by the glands already mentioned. He complains

of a "raw" and slightly painful sensation in the region of the stomach, a feeling that can be only expected when one thinks of what has been taking place there. He probably tells you that he is hungry but that he dare not eat lest it bring back that horrible vomiting. If he can be induced to leave his bed and go out on deck he feels greatly revived, and on his return he tells you that he feels hungry and eats a little; then at a second effort he eats more, and at the end of a few days his appetite is ravenous. He, to a large extent, forgets how ill he has been and begins to take an interest in things outside himself. The sense of pallor disappears, and to the end of the voyage he enjoys his trip to the fullest extent.

### Treatment Of Sea-Sickness.

The first question to be asked is :- Is there any specific for sea-sickness? There is but one answer to this and that is "No". On the other hand there was never a greater mistake made than not to treat it, because if it cannot be cured it can at least be alleviated. All

the evidence that has been brought forward  
 so far in favor of specifics has proved a  
 failure. Bromide of Sodium has been tried  
 and found wanting. I had a good  
 illustration of this in a party of eight  
 that came on board under the care of  
 a doctor of divinity. The party had been  
 using the medicine named for a week  
 before coming on board. On the day  
 after leaving port the doctor came to me  
 and said he was glad that a Specific  
 had at last been found for the dreaded  
 malady, because neither he nor any of his  
 party, had suffered in the least degree since  
 they came on board. The following day,  
 however, there was not a single one of the  
 party but lay prostrate, and the doctor's  
 illness proved both long and severe. Cocaine I have  
 tried ~~it~~ sufficiently long to prove it is of little  
 use. It seems to produce some anaesthesia  
 and slightly relieve the nausea and headache  
 when the sickness is of a limited nature.  
 If, however, the onset of the symptoms is  
 severe it proves worse than useless. I heard  
 only one of those on whom I tried it say  
 that he derived material benefit from it. I

tried it on all those who were sick during a voyage thinking that idiosyncrasy might have something to do with its effects on different persons, but the results were so unsatisfactory that I rejected it altogether. When it is considered that the sickness does not affect all persons the same way it is not to be wondered at that what will tend to relieve one will not tend to do so in another.

Thus I have found that the more marked the stomach symptoms the more likely its treatment to be successful. On the other hand, the more marked the head symptoms are the more the disease resists treatment. If a person is complaining of excruciating headache — if he is holding his hands to his head and saying it is splitting — it is useless to attempt to treat him.

For convenience of description the treatment may be divided into three stages as follows:—

- (1) Treatment before going on board — the prophylactic.
- (2) Treatment during the acute stage of the disease.
- (3) Treatment during Convalescence.

#### 1. Treatment before going to sea.

It is of the utmost importance to all those going to sea that they have their gall-bladders

cleared as far as possible of bile; also that the bile-forming power of the liver be as far as possible exhausted. With this object in view, one of those drugs that act on the liver should be taken more or less for a week before embarking. The advantage of this is well known to the Americans, who seldom fail to take this precaution. Regarding the particular medicine, Calomel suits the purpose very well. Podophyllum is also a very good remedy.

## 2. Treatment of the acute stage.

The treatment during this stage will vary with the severity of the symptoms from which the person suffers. Thus if the case is a severe one, the patient is to be kept lying on his back in his berth and a sufficiently large quantity of air admitted.

If the head symptoms are not severe, but the symptoms referred chiefly to the stomach then one of those things that have a sedative action on the stomach does good. I have found a mixture of liq. Bismuth et amm. cit. mixed with lime water act well. It relieves the sense of nausea and makes the person have a more agreeable sensation in

the stomach. There can be no greater mistake made on the part of the patient than to fast during this stage. Even that the stomach does empty itself of food soon after taking it, it is better it should be administered frequently. This prevents the case merging into one of putrid stomach later on and thus prevents what may turn out permanent effects. Gruel (sago, oatmeal, or tapioca) is a fairly good thing and often suits the purpose very well. Beef tea is another good thing and is often relished. All fats should be avoided, because they are badly borne by patients. Sometimes Sea-biscuits are borne by the stomach when nothing else is.

Their advantage is well known to old sailors and experience has taught them to recommend them. Regarding the use of certain intoxicating drinks, they can neither be recommended nor condemned, because what proves an advantage to one has an opposite effect on another.

Thus of two persons taking Champagne, one described it as "a bad", and another said it relieved the sense of nausea very much. It holds a high reputation amongst the drinks that do good. A teaspoonful of brandy

taken after a fit of vomiting often relieves the nausea and produces a more agreeable sensation in the stomach. Any sort of drink to do good must be given in small quantities because my experience is that given in large quantities they invariably do harm. If the case is very bad, the patient lies on his back and refuses everything. The presence of plenty of fresh air is the thing beyond all others at this stage.

### 3. Treatment During Convalescence

This brings us to the consideration of the third stage, namely, when severe spasm has passed off and the stomach begins to retain some food. I never despaired of patients during the first three days of their illness, no matter how ill they were, but if continued beyond this the case takes on a more serious aspect, because it is apt to pass into putrid stomach. During this stage the door of the cabin should be left open as much as possible, if the patient is not fit to go out on deck, but if at all possible he should be taken out, even if he is carried. I have often seen (and helped) to carry out persons who came back

walking alone. Great attention is needed in the question of diet. Should he decline to eat as he often does, he should be persuaded to do so and all influence brought to bear on him to get him to do so.

Sedatives for the stomach do good at this stage, & by constant perseverance he often makes a rapid recovery when the case seems tedious. Should all efforts to get him to take food fail, the case passes into irritable stomach which may last for weeks or even months. Hence the necessity for paying the utmost attention to the patient at this stage. He is generally thirsty (for reasons already indicated) and lemonade and Soda-water do good. Grapes and other fruits are very beneficial when given with the same object. As already stated, there is obstinate constipation of the bowels which lasts for more than a week at this time, the cause of which has been dealt with already. Great difficulty is often experienced in overcoming this. Pills and medicines that would prove too much on hand seem to have no effect, and thus large doses have to be given.



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When returning to his meals, he at first eats sparingly if a trace of the nausea remains. A little lean meat is often with advantage chosen the first time. A few meals however overcome this and he has a ravenous appetite. To appearance a person three days ill looks as bad as one who had been ill with — say — typhoid fever and been laid up for five weeks. Rapidly, and so much so as to be almost incredible, the <sup>emaciated</sup> ~~emaciated~~ appearance is replaced by one of health and vigour. His spirits return to him, and he begins to take a lively interest in everything that is going on about him, and what was at one time the most miserable Existence has turned out to be one of extreme pleasure. In short, it is a change from the deepest misery one can conceive to one of extreme pleasure.

One thing has not been mentioned. Something to excess by a person not accustomed to it, brings on a sickness exactly like sea-sickness. Again, persons subject to vomiting of bile experience a sensation very similar to Sea-Sickness.

Brighton Hutchinson C. H.